CLAIM AMENDMENTS

Please amend claims 1, 10, 11, 13, 15, 16, 19, and 23 as follows:

1. (Currently Amended) A method, comprising:

selecting a memory color from a user interface;

automatically providing a plurality of color values as input to an image processing device, wherein said image processing device is under a control of a particular dimensional order;

dynamically determining which color value among said plurality of color values has attained a gamut limit;

producing a Jacobian matrix associated with said color that has attained said gamut limit according to said color's nominal CMY values;

deriving a transformation matrix;

producing a gain matrix using said Jacobian matrix

transforming said particular dimensional order of said color which was determined to have attained said gamut limit using said transformation matrix, and said gain matrix, in response to dynamically determining which color value among said plurality of color values has attained gamut limit; and

thereafter automatically reducing said particular dimensional order through use of a dedicated gamut mapping function utilized to determine surface points and axes, thereby allowing for an improved estimate of said color based on said reduced dimensional order, thereby providing improved control for colors that are located external to said gamut and maintaining said color's hue.

2. (Previously Amended) The method of claim 1

wherein a color sensor is used in dynamically determining which color value among said plurality of color values has attained a gamut limit.

3. (Previously Amended) The method of claim 1 wherein said particular

dimensional order comprises a three-dimensional order represented by the colors cyan, magenta, and yellow.

4. (Previously Amended) The method of claim 3 wherein reducing said particular dimensional order, further comprises:

reducing said three-dimensional order to a two-dimensional order.

5. (Previously Amended) The method of claim 3 wherein reducing said particular dimensional order, further comprises:

reducing said three-dimensional order to a one-dimensional order.

6. (Previously Amended) The method of claim 1 wherein a ray-based approach consisting of a ray being drawn from a desired color to a point on a neutral axis through said gamut limit is used to perform said gamut mapping

7. (Previously Amended) The method of claim 6 wherein said color sensor comprises an offline sensor.

8. (Previously Amended) The method of claim 6 wherein said color sensor comprises an inline sensor.

9. (Cancelled)

10. (Currently Amended) A system, comprising:

a first transformation module wherein said first transformation module receives input of a desired L*a*b* memory color value and outputs a desired NCD memory color value; and

a feed back control loop comprising:

an image processing device for producing a compensated CMY printed value corresponding to said desired NCD memory color value ~~a plurality of color values automatically provided as input to an image processing device~~, wherein said image processing device is under a control of

a particular dimensional order;

_____a color sensor for measuring said compensated CMY printed value and outputting a corresponding measured L*a*b value, thereby dynamically determining which color value among said plurality of color values has attained a gamut limit;

_____an iterative controller for reducing error associated with said ~~plurality of color values~~ desired NCD memory color by comparing said measured NCD value against said desired NCD memory color value, converting said measured NCD value to said compensated CMY printed value, and providing said compensated CMY printed value to said image processing device;

_____a second transformation module for inputting said measured L*a*b* value from said color sensor and outputting a measured NCD value corresponding to said measured L*a*b* value ~~provided within said iterative controller for~~ thereby automatically reducing said particular dimensional order based on determining which color value among said plurality of color values has attained said gamut limit; and

_____an adder module for adding feedback obtained through said second transformation module as input to said iterative controller, thereby completing an iterative process for providing improved control for colors that are located external to said gamut;

_____wherein an output of said feed back control loop provides a minimal error between said L*a*b* memory color and said measured L*a*b* color value thereby providing improved control of out of gamut memory colors.

11. (Currently Amended) The system of claim 10 wherein said second transformation module further comprises a transformation module for transforming said particular dimensional order, in response to dynamically determining which color value among said plurality of color values has attained gamut limit.

12. (Original) The system of claim 10 wherein said particular dimensional

order comprises a three-dimensional order.

13. (Currently Amended) The system of claim 12 wherein said second transformation module further comprises a compensation module for reducing said three-dimensional order to a two-dimensional order using a standard International Color Consortium (ICC) framework.

14. (Previously Amended) The system of claim 13 wherein said compensation module reduces said three-dimensional order to said two-dimensional order in response to determining which colors among said plurality of colors have attained said gamut limit.

15. (Currently Amended) The system of claim 12 wherein said second transformation module further comprises a transformation module for reducing said three-dimensional order to a one-dimensional order.

16. (Currently Amended) The system of claim 15 wherein said second transformation module reduces said three-dimensional order to said one-dimensional order in response to determining which color among said plurality of colors has attained said gamut limit.

17. (Previously Amended) The system of claim 10 wherein said color sensor comprises an offline sensor.

18. (Previously Amended) The system of claim 10 wherein said color sensor comprises an inline sensor.

19. (Currently Amended) The system of claim 10 further comprising a color rendering device associated with said second transformation module and wherein said second transformation module is integrated with said image processing device.

20. (Previously Amended) The system of claim 10 wherein said iterative controller's iterative output is input to said color rendering device, such that said iterative output of said iterative controller reflects a plurality of compensated color values requiring correction for rendering variations thereof.

21. (Previously Amended) The system of claim 18 wherein said color rendering device comprises a printer.

22. (Previously Amended) The system of claim 18 wherein said color rendering device comprise a photocopy machine.

23. (Currently Amended) A method, comprising:

selecting a memory color from a user interface

automatically providing a plurality of desired L*a*b* memory color values as input to a transformation module;

transforming said L*a*b* memory color values into NDC memory color values using a transformation function;

providing said NCD memory color values to an adder;

providing the output from said adder as input to an iterative controller which outputs compensated CMY color values;

providing said compensated CMY color values as input to a graphical rendering device;

printing patches of said compensated CMY color values;

providing said patches as input to a color sensor;

generating measured L*a*b* values for said patches;

providing said measured L*a*b* values as input to a second transformation module which transforms said L*a*b* values into NCD values and provides said NCD values to said adder, thereby completing a feedback loop which minimizes the error between the measured color and the desired L*a*b* memory color providing improved control for colors that are located external to said gamut.